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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/480,986	01/10/2000	MICHAEL BOLOTSKI	18035-001010	5021

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EXAMINER

PIZIALI, JEFFREY J

ART UNIT PAPER NUMBER

2673

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/480,986	Applicant(s) BOLOTSKI ET AL.	
	Examiner Jeff Piziali	Art Unit 2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-10 and 12-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-10 and 12-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 13 December 2004 has been entered.

Drawings

2. The drawings were received on 23 December 2003 (Paper No. 20). These drawings are acceptable.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 5-10, and 12-21 are rejected under 35 U.S.C. 102(e) as being anticipated by McKnight (US 6,144,353).

Regarding claim 1, McKnight discloses a method for operating a display having a plurality of pixels, comprising: applying a single transition voltage [Fig. 2C, 151] to the pixels

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[Fig. 2A, 108] on the display [Fig. 2A, 106] during a first period of time [Fig. 2C, t_1 - t_2] within a first field time [Fig. 2C, t_0 - t_2], each pixel includes a liquid crystal material [Fig. 2A, 106] having at least a first state [i.e. "dark"] and a second state [i.e. "bright"], wherein a transition of the liquid crystal material is associated with a slow transition [Fig. 2C, t_1 - t_2] from the first state to the second state, wherein a transition of the liquid crystal material is associated with a fast transition [Fig. 2C, " 0 - t_0 " or " t_2 - t_3 "] from the second state to the first state, and wherein the single transition voltage induces liquid crystal material in each pixel to begin the slow transition to the second state (see Column 10, Lines 1-40); thereafter while the liquid crystal material for each pixel element is performing the slow transition to the second state in response to the application of the single transition voltage, initiating application of a first pixel voltage (i.e. pixel data) to a pixel during a second period of time [Fig. 2C, t_1 - t_2] within the first field time, wherein the application of the first pixel voltage induces liquid crystal material in the pixel to begin transitioning to a third state [i.e. a first data defined intensity level between t_1 and t_2 in Fig. 2C] (see Column 10, Lines 1-40); thereafter waiting a predetermined time period within the first field time; and thereafter illuminating the pixel [Fig. 3A, 210] within the first field time (see Column 11, Line 26 - Column 12, Line 47).

Regarding claims 2, 10 and 18, McKnight discloses illuminating the pixel with an illumination source [Fig. 2A, 114] of a first color within the first field time (see Column 9, Lines 24-28).

Regarding claim 5, McKnight discloses illuminating the pixel with an illumination source [Fig. 2A, 114] (see Column 9, Lines 16-43).

Regarding claims 6, 14, and 20, McKnight discloses applying the single/first transition voltage to all the pixels at one time while holding a common electrode [Fig. 2A, 108] at a constant value [Fig. 2C, 151 between t_1 and t_2] (see Column 10, Lines 1-50).

Regarding claims 7 and 15, McKnight discloses applying the first transition voltage to a first row of pixels while holding a common electrode [Fig. 2A, 108] at a constant value [Fig. 2C, 151 between t_1 and t_2] (see Column 10, Lines 1-50), and thereafter applying the single/first transition voltage to a second row of pixels while holding a common electrode at a constant value [Fig. 2C, 151 between t_5 and t_6] (see Column 11, Line 33 - Column 12, Line 12).

Regarding claims 8 and 16, McKnight discloses applying the first transition voltage via drive transistors [Fig. 2A, 110; Figs. 6A, 652; Fig. 6B, 662 & 663; and Fig. 6C, 674] uniquely coupled to a first column of pixels while holding a common electrode [Fig. 2A, 108] at a constant value [Fig. 2C, 151 between t_1 and t_2] (see Column 10, Lines 1-50), and thereafter applying the first transition voltage via drive transistors [Fig. 2A, 110; Figs. 6A, 652; Fig. 6B, 662 & 663; and Fig. 6C, 674] uniquely coupled to a second column of pixels while holding a common electrode at a constant value [Fig. 2C, 151 between t_5 and t_6] (see Column 11, Line 33 - Column 12, Line 12).

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Regarding claim 9, this claim is rejected under the reasoning applied in the above rejection of claim 1, furthermore, McKnight discloses a transaction circuit [Fig. 2A, 110] coupled to each pixel; a paint circuit [Fig. 2A, 102] coupled to the transaction circuit; a timer circuit [Fig. 2A, 112] coupled to the paint circuit; and an illumination circuit coupled to the timer circuit [Fig. 2A, 114 & 116] (see Column 9, Lines 16-43).

Regarding claims 12 and 19, McKnight discloses red, green and blue colors (see Column 9, Lines 24-28).

Regarding claim 13, McKnight discloses the illumination circuit comprises a monochromatic illumination source (see Column 9, Lines 24-25).

Regarding claim 17, this claim is rejected under the reasoning applied in the above rejection of claim 1, furthermore, McKnight discloses an initialization circuit [Fig. 2A, 110] coupled to the pixels; a driving circuit [Fig. 2A, 102] coupled to the initialization circuit; and an illumination circuit [Fig. 2A, 114 & 116] coupled to the driving circuit (see Column 9, Lines 16-43).

Regarding claim 21, McKnight discloses the transition of the liquid crystal material from the first state to the second state is associated with a transition from a dark state to a bright state (see Column 11, Line 33 - Column 12, Line 12).

Response to Arguments

5. Applicants' arguments filed 13 December 2004 have been fully considered but they are not persuasive. The applicants contend the cited prior art of McKnight (US 6,144,353) fails to disclose applying a single transition voltage to the plurality of pixel elements, and while the liquid crystal material for each pixel element is performing the slow transition to the second state in response to the application of the single transition voltage, initiating application of a first pixel voltage to one pixel element of the plurality of pixel elements. The examiner must, however, respectfully disagree.

McKnight does indeed teach applying a single transition voltage [Fig. 2C, 151] to the pixels [Fig. 2A, 108] on the display [Fig. 2A, 106], wherein each pixel includes a liquid crystal material [Fig. 2A, 106] having at least a first state [i.e. "dark"] and a second state [i.e. "bright"], and wherein a transition of the liquid crystal material is associated with a slow transition [Fig. 2C, t_1 - t_2] from the first state to the second state, and while the liquid crystal material for each pixel element is performing the slow transition to the second state in response to the application of the single transition voltage, initiating application of a first pixel voltage (i.e. pixel data) to a pixel (see Column 11, Line 26 - Column 12, Line 47). In fact, McKnight states, "At time t_1 the voltage on the control electrode is reduced, as shown in the voltage waveform 151, such that the voltage across the liquid crystal is less than V_B . At this point, it is now possible to display and view the pixel data because the pixel electrodes can now control the state of the liquid crystal. At this point beginning at time t_1 , the liquid crystal begins to return to a light altering state as shown by the pixel intensity curve 154" (see Fig. 2C; Column 10, Lines 19-26).

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By such above reasoning, the rejection of the claims is deemed necessary, proper, and thereby maintained at this time.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J.P.

21 March 2005



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